

A DYNAMICALLY EXTENSIBLE RULE-BASED EXPERT-SYSTEM  
SHELL FOR DATABASE-COMPUTING ENVIRONMENTS

ABSTRACT OF THE DISCLOSURE

5           A computer-implemented method for flexibly and efficiently representing  
and applying business rules in a transaction-processing relational database  
management system (RDBMS) environment. The method includes providing a  
deterministic rule-based expert-system shell. A late-binding mechanism within  
the RDBMS environment is also provided. An extensible data-maintenance  
10       mechanism is created for the rule-based expert-system shell. The extensible  
data-maintenance mechanism maintains sets of approval rules governing  
business transactions generated by other transaction-processing applications.  
The data-maintenance mechanism uses late binding to make the sets of rules  
and rule components stored in the data-maintenance mechanism arbitrarily  
15       extensible. A rule-processing engine applies the sets of approval rules stored in  
the extensible data-maintenance mechanism to business transactions  
originating in transaction-processing applications. The method provides for a  
plurality of approval-rule types, each making a qualitatively different  
contribution to the list of approvers required for any given business  
20       transaction. The method calculates the list of approvers required for a given  
business transaction by applying the appropriate set of approval rules to the  
transaction.